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ABSTRACT

A study investigaged: (1) whether learners of English as a Second Language can attend to meaning and form simultaneously; (2) how the nature of the linguistic form might affect processing for meaning; and (3) whether the learner's ability to focus on particular linguistic features is affected by whether or not those features have been acquired. This study focused on learning of the morphemes "-ing and -s," acquired at different stages in language development. Subjects were 29 adult students of varied linguistic and educational backgrounds, all enrolled in intensive English courses. They were randomly assigned to one control and two experimental groups. All subjects listened to 3 tape-recorded short stories as prompts for written recall exercises, and completed 2 picture description tests, to determine presence or absence of the target morphemes in their grammars, and an 80-item vocabulary recognition test. After training sessions with the first two tapes, subjects listened to the third tape; the control group simply listened for idea units, while experimental groups listened for occurrences of "-ing and -s," respectively. Results showed no statistically significant differences based on listening condition, suggesting that learners at different proficiency levels can attend to form and meaning simultaneously. Contains 31 references. (MSE)

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HOW COMPREHENSIBLE IS INPUT WHEN ATTENTION IS FOCUSED ON FORM?

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HOW COMPREHENSIBLE IS INPUT WHEN ATTENTION IS FOCUSED ON FORM?

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Introduction

One of the most intriguing questions facing applied linguists today is the role of form-focused instruction in second language classrooms. Krashen (1985) has long argued that comprehensible input is both necessary and sufficient for second language acquisition. Although most SLA researchers and practitioners agree that comprehensible input is necessary for second language acquisition, the question of whether it is sufficient remains. Research on French immersion programs in Canada (Swain, 1985; Day & Shapson, 1987; Harley & Swain, 1984) has shown that while many learners develop confidence and fluency in the target language, they often fall short of native-like L2 proficiency, particularly in speaking and writing.

Such findings have led some SLA researchers to conclude that a focus on form within communicative classrooms may be necessary for learners to achieve native-like competence in the target language.

Focus on Form Within the Communicative Classroom

A fundamental premise of the focus on form approach is that it ideally occurs within a communicative context. Such a premise entails that language learners attend to both form and meaning as they process linguistic input. But is simultaneous processing of form and meaning possible?

Several studies suggest that attention to form and attention to meaning are separable and possible in a communicative context and that learning is enhanced when the learner attends to

linguistic form in a meaningful way. Littlewood (1980), for example, claims that both focus on form and focus on meaning can be addressed with varying degrees of emphasis depending on the objectives of the teacher and the program. Widdowson (1991) echoes the same idea when he suggests that focus on form is as important as focus on meaning.

The Effects of Limited Processing Capacity

Despite such support for form-focused pedagogy in SLA, some researchers (Van Patten 1989,1990; Swain 1985) have suggested that focus on form can interfere with comprehension for some learners. In fact, a number of current information processing models claim that the human mind is limited in its cognitive capacity. Such models posit a series of "storage structures," such as working memory, sensory registers, short term memory, and long term memory. Other models view attention as a filter that restricts the amount of input that can become intake. Still others view attention as a "resource" (see Bialystok, 1982; Kihlstrom, 1984; McLaughlin, Rossman, & McLeod, 1983; Posner & Klein, 1973; Wickens, 1984).

These information processing models propose that the amount of information the human mind can attend to at one time is limited. If the human mind is a limited-capacity processor, it follows that learners must be selective in their focus. In other words, certain data are selected for processing at the expense of other data (McLaughlin et al.,1983; Posner & Friedrich, 1986). This notion of selective attention is a crucial one for SLA because it suggests that not all L2 learners may be able to benefit from a focus on form approach within a communicative context, particularly if the learners are struggling for meaning at the same time.

Studies by Van Patten

In a series of studies examining the effects of divided attention, Van Patten (1988; 1989; 1990) has suggested that focus on form may not be as beneficial for beginning-level learners as for intermediate and advanced learners. He argues that "conscious attention to form in the input competes with conscious attention to meaning, and by extension, only when input is easily understood can learners attend to form as part of the intake process"(1990, p. 296). Van Patten (1984) also found that learners who are trying to process the meaning of a message tend to focus on its content and semantically salient elements, while linguistic features that carry little or no communicative value tend to be ignored. For example, learners process lexical items before grammatical ones (Van Patten, 1994a; 1994b). Similarly, morphological features that carry semantic information such as tense and aspect inflections, articles, plural *-s*, etc. are easier to notice than semantically redundant features such as the Spanish plural verb morpheme *-n* or the English third person singular *-s* (Lightbown & Spada, 1990; Van Patten, 1989; 1990).

Research Questions

These findings prompt us to pose the following research questions:

Can learners simultaneously attend to both form and meaning or will a focus on form interfere with comprehension?

If comprehension is affected, does the nature of the linguistic form affect processing for meaning?

Is a learner's ability to focus on particular linguistic features affected by whether or not those features have been acquired?

Subjects

Twenty-nine ESL students (M = 17; F = 12) enrolled in three Intensive English courses served as subjects. Roughly three levels of English proficiency were represented: beginning, intermediate, and advanced. Students had been placed in one of these three classes based on the results on the Michigan Test of English or because they had successfully completed the previous course.

Subjects represented 9 language backgrounds: Amharic (1), Arabic (7), Chinese (3), Japanese (5), Korean (5), Russian (1), Spanish (3), Thai (2), and Vietnamese (2). Subjects ranged in age from 18 to 33 years (mean age = 22). Five reported having knowledge of one other foreign language in addition to English. The number of years the Subjects studied English in their home countries ranged from one to twelve years (mean = 4 years) while four Subjects reported having no English instruction prior to arriving in the U.S. Length of study in an English-speaking country ranged from 3 months to 4 years (mean = 1.68 years). Self-reported TOEFL scores ranged from 400 to 550. However, not all Subjects reported having taken the test. All were high school graduates; two reported having finished one to two years of undergraduate study; five reported having undergraduate degrees. All participated in the experiment voluntarily and signed consent forms to that effect.

Subjects were randomly assigned to groups using a stratified sampling technique designed to obtain three equivalent groups representing a range of proficiencies. However, due to absences, the final groups contained an unequal distribution of Subjects from the three levels, as shown in Table 1 below.

Table 1. Number of subjects per group by level

Level of English Proficiency	*Group I (Control)*	*Group II (-ing)*	*Group III (-s)*	*Total*
Beginning	1	4	4	9
Intermediate	5	5	2	12
Advanced	3	3	2	8
Total	9	12	8	29

Materials

Three tape-recorded short stories served as prompts for the written recalls. Two of the short stories were used for training purposes. The third, a 505-word, three-minute short story entitled "The Jump" (Tolstoy, 1987), served as the experimental passage and was modified to include roughly equal occurrences of the verb morphemes under investigation: *-ing* (n = 29) and *-s* (n = 24). These target features were selected because while both *-ing* and *-s* are verb morphemes, they are acquired at different stages in the language development sequence (Dulay & Burt 1974). Listening comprehension was measured by the number of idea units[1] contained in the written recalls (Carrell 1985; Lee 1986).

Short stories rather than expository texts were used for several reasons. First, differences in the Subjects' background knowledge on the topic or content of the expository text might constitute an intervening variable. Second, since the Subjects represented a broad range of English language proficiency, some, particularly those at the beginning level, may not be familiar

with the structure of English expository texts, thereby making comprehension and recall difficult.

Third, studies have shown that schema-activating texts, such as stories, are more easily remembered than descriptive or expository prose (Smith & Swinney, 1992). Story schemata, which are acquired through world experiences and by listening to stories, consist of expectations about stories in general, about the units that make up a story, and how these units are ordered and related to each other (Mandler, 1978). Hence, story schemata appear to facilitate both comprehension and recall (Kintsch, 1977; Kintsch, Mandel & Kozminsky, 1977; Mandler & Johnson, 1977).

In addition to the taped stories, Subjects also completed two picture description tests designed to determine whether or not the target features *-ing* and *-s* were present in their developing grammars. Each test consisted of 10 cartoon drawings of people engaged in various activities. Subjects were asked to write a sentence describing each activity. The morphemes were considered to be acquired if the Subjects supplied the appropriate verb ending in 90% of the sentences.

An 80-item vocabulary recognition list was also developed to assess the Subjects' familiarity with the vocabulary used in experimental passage. Ten per cent of the items in the list were nonsense words, which were included as a check on the accuracy of the self-reporting task. A word frequency list was consulted to decide which words to include (Sakiey & Fry, 1979). We assumed that all the Subjects in the study would be familiar with the 300 most commonly occurring words in written English. Therefore, all words that appeared in the story, other than those in the 1-300 range, were included on the vocabulary list.

Finally, a language background questionnaire was developed to collect information about the Subjects' native language, knowledge of other languages, years of English instruction, educational level, TOEFL scores, age, and sex. The questionnaire also gave Subjects the opportunity to ask questions about the study and to make comments or observations.

Procedures

The study was carried out over a two week-period. During the first session, the Subjects completed the first picture description test which elicited the production of the *-ing* verb morpheme. During the second session, Subjects completed the second picture description test designed to elicit the *-s* verb morpheme, and then listened to a 1-minute taped story. At the end of the story, Subjects were asked to write down as much as they could recall and were given the option of writing in English, their L1, or a combination. In this way, we hoped to control for production difficulties that the beginning-level Subjects might encounter.

During the third session, the subjects listened to a second taped story and listened for the presence of the past tense verb morpheme *-ed*. This second training task gave them the opportunity to practice attending to both form and meaning at the same time. Subjects were instructed make a check mark on their written instruction sheet each time they heard a verb with an *-ed* ending to provide an outward sign that they were focusing on the form. After listening to the second story, Subjects again wrote down everything they could recall.

Following the training exercise, Subjects received one of three sets of written instructions depending on their group assignment. Subjects in the control group were directed to listen to the taped story only. Subjects in the experimental groups listened to the story at the same time that they listened for the presence of *-ing* or *-s*. Subjects were again directed to make a check

mark on their instruction sheet each time they heard the target verb morpheme. After hearing the experimental passage, Subjects wrote recalls. They were also asked to write down any questions, comments, or observations about their experience as participants in the study.

During the fourth and final session, Subjects completed the 80-item vocabulary recognition task. The background questionnaire was also distributed.

We expected the control group to exhibit the greatest comprehension since they would be focusing solely on meaning and their attention would not be divided. Thus they would be able to devote all their cognitive energies to the comprehension task. In addition, we expected the *-ing* group to recall more than the *-s* group since *-ing* carries the concept of aspect and is important for comprehension. Because the verb morpheme *-s* in English carries semantically redundant information, we expected that the Subjects in the *-s* group would have to exert extra effort to attend to this form because its meaning is not crucial to comprehension. Finally, we expected that Subjects would comprehend more information if the target form had already been acquired since they would be able to allocate a greater share of their processing capacity to comprehension. To summarize, these assumptions led us to formulate the following hypotheses:

Hypotheses

H_1: The control group will recall more idea units than the two experimental groups.

H_2: The *-ing* experimental group will recall more idea units than the *-s* experimental group.

H_3: Subjects who have acquired the relevant target form (*-s* or *-ing*) will be able to recall more idea units than Subjects who have not acquired the target form.

Results

The reliability of the scoring procedure was calculated on a sample of five written protocols, which were independently scored by four raters. Interrater reliability was .99 using the Spearman-Brown Prophecy formula. Given the high interrater reliability, the remaining protocols written in English were scored by two of the researchers.

Eleven protocols were written in languages other than English: one in Russian, 3 in Arabic, 1 in Chinese, 2 in Japanese, 3 in Korean, and one in Spanish. In these cases, the original L1 recall protocols were scored by two native speakers. The same protocols were then translated into English and scored by two of the researchers. Since the scores from the translated protocols were comparable to those reported by native speakers, the remaining L1 protocols were translated into English and scored by two researchers.

In order to select a statistical procedure (i.e. parametric or non-parametric) the Shapiro-Wilk test for normality of distribution was computed. The p-value for this test was 0.3261, indicating no strong deviation from the assumptions of normality. Therefore, parametric procedures were chosen for the remainder of the data analysis[2].

To examine the differences between groups, a two-way ANOVA was used so that proficiency level (i.e., beginner, intermediate, or advanced) and listening condition (control, *-s*, *-ing*) could be considered simultaneously. The results of the two-way ANOVA indicate that Proficiency Level was significant ($p = 0.0022$) but that Condition was not significant ($p = 0.496$).

Table 2. Results of the 2-Way ANOVA

Source	df	Type III SS	Mean Square	F Value	Pr > F
Level	2	1417.2097904	708.6048952	7.98	0.0022
Condition	2	128.2548098	64.1274049	0.72	0.4960

Of the 29 Subjects, 8 did not supply *-ing* and *-s* in 90% of the obligatory contexts on one or both picture description tasks designed to measure acquisition of these verb morphemes. Accordingly, Spearman's rank order correlation was calculated to determine the relationship between idea units recalled and the number of *-ing* and *-s* verb endings produced. Correlations were 0.17 for *-ing* and 0.08 for *-s*. We therefore concluded that there was no relationship between these variables.

The results of the vocabulary recognition task were not surprising. Subjects at the advanced level reported knowing slightly more of the 73 items on the task (66.8) than Subjects at the intermediate level (62.2), while Subjects at the beginning level recognized on average the fewest number of vocabulary items (56.9). None of the Subjects indicated familiarity with any of the 7 nonsense words.

Discussion

The results of the two-way ANOVA showed no statistically significant differences based on listening condition. That is, the control group did not recall significantly more idea units than either experimental group, nor did the *-ing* group outperform the *-s* group. These findings suggest that learners belonging to a range of proficiency levels and placed in different listening conditions can simultaneously attend to both form and meaning. Nevertheless, many Subjects

commented on the difficulty of attending to two activities at the same time.[3]

> *When I took this survey, I couldn't concentrate two things one time. For example, while I listen to the story, I mark a verb tense or other task; then, I can't make either one; however, this was so interesting. (Advanced, Control Group)*
>
> *This one was easier to me than the other one because in this one I focused on one thing which was listening to the story only but the other one was to focus on two different things; verbs with -ed in the end and also the story and its much harder to listen to two things at one time. (Advanced level, control group)*
>
> *It is funny that the second type of test I don't remember too much on the story when I have to do some other thing while I am trying to remember the content on the story. (Advanced level, -ing group)*
>
> *The study of this program was not hard at the beginning, but the last one (three minites story) was kind of hard because I have to pay attention to check out the verb but also need to write down what the paragraph said. (Intermediate level, -s group)*

Comments from other subjects at different levels and belonging to other experimental groups said basically the same thing. These observations suggest that the Subjects *did* find it difficult to focus on form and meaning at the same time. In order to reconcile these personal accounts, as well as Van Patten's (1989; 1990) findings that focus on form *does* affect comprehension, with the findings of the present study, we propose that although many of the Subjects found that attending to both form and meaning was cognitively demanding, they did not find the task impossible.

In fact, the written recalls suggest that both form *and* meaning can be attended to simultaneously. When we examine the most frequently recalled idea units, shown in Table 3 below, we find that these idea units provide a rough but coherent synopsis of the story's plot.

Table 3. Idea units recalled by at least 50% of the Subjects

Idea Unit	Frequency	Content of the Idea Unit Recalled
8	17	[the monkey] snatches the boy's cap
12	16	and quickly climbs
30	17	now he is going after the monkey
70	15	just then, the captain of the ship
71	16	the boy's father
80	19	and shouts
81	18	"Jump into the water!"
85	16	"One, two..."
87	23	the boy jumps
89	21	into the water
99	15	water is coming from his mouth

In addition to outlining the story, these idea units also contain three essential components of a narrative: conflict (8), climax (87), and resolution (99). It is also important to note that each of these idea units is chronologically and causally linked with an adjacent idea unit, which suggests that the Subjects' story schema was activated and aided recall. Thus, regardless of the perceived difficulty of the task, the Subjects *were* successful in comprehending the critical elements of the story. Consequently, we conclude that learners can attend to form and content at the same time, although the process can be a demanding one.

Conclusion

While the results of this study appear to contradict Van Patten's findings, direct comparisons across studies are not possible for the following reasons. First, our subjects represented a wide variety of language backgrounds whereas most of Van Patten's subjects came from the same L1 background and were studying Spanish as a foreign language. In addition, our experimental passage was a narrative rather than expository text, and we know that text type and organization can influence how much Subjects comprehend and recall (Connor, 1984)

Moreover, while the Subjects in the three ESL classes theoretically represented three levels of English language proficiency, their background information revealed substantial variation in the amount of prior English instruction they received and time spent in the U.S. We now consider it critical to assess language proficiency directly rather than to rely on class placements.

Finally, our use of idea units to measure comprehension may not have been subtle enough to capture the full extent of the Subjects' understanding. For example, the scoring procedure did not account for correct inferences or embellishments that the subjects produced, nor were scores reduced because of distortions. Thus it was possible for two Subjects to receive the same score for idea units recalled even though one may have "recalled" additional ideas that were, in fact, erroneous.

To sum up, the present study was conducted in order to answer the question "Can learners simultaneously attend to both form and meaning or will a focus on form interfere with comprehension?" Although our findings do not provide prove that a clear relationship exists between focus on form and listening comprehension, they suggest that a focus on form approach is feasible even for students functioning at a wide range of L2 proficiency levels.

Endnotes

1. The use of written recalls to measure comprehension is a well-established technique (Carrell 1985; Demel 1990; Glenn 1977; Kintsch 1977; Lee 1986; Mandler 1978; Van Patten 1989, 1990). However, the definition of idea units is not consistent across studies. In the present study, idea units consisted of all main clauses, subordinate clauses (both adverbial and relative), infinitival constructions, idiomatic expressions, conjunctives, and optional prepositional phrases functioning as adverbs of time and place. Prepositional phrases functioning as complements, adverbs of manner, or showing possession were not counted as idea units.

2. We would like to thank Marlon Mundt for helping us with the statistics.

3. These comments were taken from the subjects' written protocols and reflect the spelling and grammar of the original texts.

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